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Immigrants' Identity, Economic  
Outcomes, and the Transmission of  
Identity across Generations

*Teresa Casey and Christian Dustmann*

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## **Non-Technical Abstract**

In this paper we address three issues relating to immigrants' identity, measured as the feeling of belonging to particular ethnic groups. We study the formation of identity with home and host countries. We investigate how identity with either country relates to immigrants' and their children's labour market outcomes. Finally, we analyse the intergenerational transmission of identity. Our analysis is based on a unique longitudinal dataset on immigrants and their children. We find that identity with either country is only weakly related to labour market outcomes. However, there is strong intergenerational transmission of identity from one generation to the next.

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# 1. Introduction

Do immigrants identify with the culture, values and beliefs of the country which they have chosen as their new home, or with beliefs and values of their origin country? Do immigrants that express a strong identity with the host country perform better in the labour market than immigrants that do not? And is ethnic minority identity and national identity transferred from one generation to the next through parental influence? These are the questions we address in this paper.

In recent years these questions have raised a lot of interest. Faced with growing inflows of immigrants from countries with very different ethnic and cultural compositions, “identity” became one of the most recent additions to the public debate on immigration and minority related issues. The British Government in a recent policy document discussing future reforms of the citizenship law, proposed new English language requirements as well as the requirement to join in with “...the British way of life...” for migrants who want to obtain British citizenship, and stressed the importance of “...putting British values at the heart of the system.” (Home Office, 2008). These objectives were also reflected in a recent review of citizenship commissioned by the British Prime Minister which stated that the “... challenge is to renew our shared sense of belonging and take steps to engage those who do not share it.” (Goldsmith, 2008, p.88).

These proposals are mirrored by a renewed debate about identity in many countries in Europe – e.g. France, Germany, Denmark – and also in the US and Australia. In Germany, a new citizenship test is proving very controversial as it will force the children of immigrants to choose between their home and German nationalities, creating a conflict of identity for many. France also passed a controversial new immigration bill last year which included an exam for prospective immigrants on French values. Similarly, Denmark has in the last year introduced a citizenship test based on Danish society, culture and history. Migrants seeking Australian citizenship must have knowledge of English and it is also “... expected that they embrace Australian values and integrate into the Australian society.” (Department of Immigration and Citizenship). In the US, a redesigned citizenship test comes into operation this year where the emphasis is on

encouraging applicants to “... to learn and identify with the basic values we all share as Americans.” (US Citizenship and Immigration Service, 2008). Clearly then, identity is a new facet of immigration policy.

The latest literature in economics has addressed issues of identity, both theoretically (see for example, Akerlof and Kranton, 2000; Bison et al., 2006; Battu et al., 2007) as well as empirically (see for example, Mason, 2004; Pendakur and Pendakur, 2005; Nekby and Rodin, 2007; Manning and Roy, 2009; Constant and Zimmermann, 2008; Battu and Zenou, 2009). Akerlof and Kranton (2000) point out several reasons why the concept of identity is important for economic analysis. Identity may explain behaviour that seems detrimental to economic success. Identity may create externalities for others and provoke reactions that affect individuals’ own payoffs. Identity may change preferences, with potential consequences for economic outcomes. And finally, as identity affects economic behaviour, identity choice may have important consequences for economic well-being.

The public debate on “identity” and its consequences mirrors some of these points. There is a strong interest in whether the choice of a particular identity creates negative externalities for the population in the receiving country. The papers by Manning and Roy (2009) and Battu and Zenou (2009) (this issue) study some of these aspects.

An important empirical aspect is whether the choice of an identity that deviates from that of the majority population affects the individual’s economic outcomes. In the first part of this paper, it is this question that we address. We establish the relationship between a particular measure of ethnic minority identity (the feeling of belonging to a particular ethnic group or origin country) and economic outcomes. Our findings cannot be interpreted as causal; however, we argue that it is not implausible that the dominant mechanism leading to biased estimates creates an upward bias, which allows interpretation of estimates as bounds.<sup>1</sup> Nekby and Rodin (2007) examine the

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<sup>1</sup>In an earlier paper, Dustmann (1996) explains measures of national identity of immigrants in Germany, and how these are related to earnings. Dustmann points out that the direction of causality is difficult to address in any such analysis. In the framework of Akerlof and Kranton (2000), identity is a part of individuals’ utility function, and related among others to the extent to which actions correspond to prescribed behaviour of the assigned category. Important here is that the “category” in which the individual falls can be changed or chosen by the individual. This makes the empirical analysis of linking identity measures to economic outcomes difficult; in the absence of randomisation of individuals into clearly

consequences of identity for labour market outcomes in Sweden and interpret their results in a similar way, as do Pendakur and Pendakur (2005) when looking at the relationship between ethnic minority identity and the use of informal networks in finding a job and also the relationship with occupation quality.

A further important question is where identity originates. Two main theoretical approaches have been used in most of the psychological research on ethnic identity: social identity theory (Tajfel and Turner, 1986) and developmental theory (Erikson, 1968). Social identity theory focuses on adults and self esteem issues related to ethnic identity, while the development theory suggests that ethnic identity varies with age from early adolescence and acculturation (behaviours, attitudes and values which may change when in a new culture) influences the ethnic identity ultimately achieved through this process of development. Within the concept of the development theory, socio-cognitive theories of ethnic identity development suggest that this can occur before adolescence (see Akiba et al., 2004; Marks et al., 2007), or it may also happen very early in life. Research by Weiland and Coughlin (1979) suggests that children as young as three or four begin developing a sense of ethnic identity. It is apparent therefore, that parents – both in the family home and through their ethnic socialisation practices – play a formative role in the development of children’s ethnic identity in their early years, a role that is acknowledged in the child developmental psychology literature (Marks et al., 2007; Phinney, Horenczyk et al., 2001; García Coll et al., 1996).

Within the acculturation concept of ethnic identity, the cross-cultural psychological literature indicates that ethnic identity can be thought of in terms of two alternative models (Phinney, 1990) – a bipolar, linear model where strong ethnic identity implies a weak sense of the majority identity (“oppositional identities”) or a two dimensional model where the relationship between ethnic identity and the majority identity may be independent.<sup>2</sup> Therefore, it is not unusual that children of immigrants may have a strong identity with both the host and the home country. Marks et al. (2007, p.510) report findings which confirmed “bi-directional theories of identity development”

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defined categories of “identity”, the relationship to economic outcomes is not identifiable in a causal manner.

<sup>2</sup> This bipolar model incorporates the concept of “oppositional identities” which implies that an individual chooses between diametrically opposed identities.

in their study of ethnic identity development amongst the children of immigrants. But it is also possible that children of immigrants may develop a strong ethnic minority identity, the corollary being a weak sense of identity with the host country.

In the second part of the paper, we address this particular aspect of the formation of identity in second generation immigrant populations: parental influence and background. We address the question to what extent “identity” in the parent generation of immigrants transmits to the next generation. The uniqueness of our data, which is a long panel that oversamples individuals with immigrant backgrounds, and contains repeated information for both parents and their children on ethnic group identity, allows us to investigate this question.

The structure of the paper is as follows. In the next section, we discuss the intergenerational transmission of identity, outlining a theoretical model and our empirical strategy. Section 3 describes our data, some descriptive characteristics of the sample that we use, and examines the determinants of identity and how it changes with time spent in the host country. We analyse the association between both ethnic group identities and labour market outcomes in Section 4. Section 5 presents the results of the intergenerational transmission of identity and examines how this differs between fathers and mothers, sons and daughters. We discuss our findings and conclude in Section 6.

## **2. The Transmission of Identity across Generations**

Parents play a formative role in their child’s ethnic development, as we explain in the Introduction. The way parents influence their children may be determined by a number of factors. Marks et al. (2007) found evidence that immigrant parents’ levels of acculturation can influence the development of their child’s ethnic group identity. For instance, if parents are deeply rooted in the culture and behaviours of their country of birth, they may find it difficult to educate their children in a way that does not acknowledge these views and beliefs. On the other hand, if a strong identity with the

home country creates future difficulties for their children – for instance, by creating externalities that alienate majority individuals and prevent them from provision of equal economic opportunity – then parents may take this into account, and direct their influence on their children in a way that acknowledges this. Parental identity may in turn be shaped by the parental reference group, and the degree to which the parent feels that deviating from the reference group is reducing utility. Thus, the way parents influence their children depends on one hand on the strength of parental identity with home values – and the disutility created by children who deviate from these values – and on the other hand, on the possible disadvantages children may suffer from an identity that does not conform to expectations.

To formalise these ideas in the simplest possible way, consider the following parental utility function:

$$V = \log Y + \pi \log y - \theta(i - I)^2 - \gamma(I - x)^2 \quad (1)$$

Here  $Y$  is the consumption (or net earnings) of the parent,  $y$  is future net earnings of the child,  $i$  and  $I$  are identity with the home country of the child and the parent respectively, and  $x$  is the identity of the parent's social reference group. The last two terms are loss functions, with weights  $\theta$  and  $\gamma$ : they measure the loss in utility of the parent if the child's identity deviates from that of the parent, and if the parent's identity deviates from that of the parent's social references group.

Net earnings of the child and parent are given by  $y = p - \rho i$  and  $Y = P - rI$  which are equal to potential earnings ( $p$  and  $P$ ) minus disadvantages through identity formation. If the parameters  $\rho$  and  $r$  are equal to zero, then the labour market does not “punish” a deviant identity.

The parent maximises (1) wrt  $i$  and  $I$ . It follows from the first order conditions that:

$$i = I - \frac{1}{2} \frac{\pi \rho}{\theta} \quad (2)$$



From the parent's point of view, it is optimal if the child's identity is equal to the parent's identity, if there is no earnings disadvantage from identity formation ( $\rho = 0$ ). If  $\rho$  is positive, the optimally chosen level of child's identity will be smaller, and depends on how much the parent takes the child's future earnings into account ( $\pi$ ), and on the weight the parent attaches to the loss in utility resulting from the child deviating from the parent's identity. Substituting the parent's optimal choice for his own identity into (2), we obtain:

$$i = x - \frac{1}{\gamma} r - \frac{1}{2} \frac{(\theta + \gamma)}{\theta \gamma} \pi \rho \quad (3)$$

The child's identity will depend on the identity of the social reference group of the parent, and the degree to which identity may lead to an earnings disadvantage for the child, weighted with the "penalty" parameters for the parent if deviating from group identity, or if the child deviates from parental identity.

These very simple considerations suggest that the identity of the child relates to parental identity, and the way a strong identity may be detrimental for the accumulation of earnings in the host country. If for instance  $\rho = 0$ , even for an altruistic parent, there is no reason to avoid transmitting their identity to the offspring. Likewise, if the altruistic parameter is equal to zero, the parent will not take into account future disadvantages for the child.

In our empirical analysis, we investigate the degree to which identity with the home country (or the host country) will lead to disadvantage (or advantage) of immigrants and their children. This determines the degree to which identity formation may be determined by labour market concerns. We will then estimate the degree to which parental identity is transmitted to their children.

### **3. Data and Sample, Descriptive Evidence, and Identity Measures**

#### ***3.1 Data and Sample***

The data we use for this analysis stems from 22 waves of the German Socio-Economic panel (GSOEP), which is a household-based panel survey, similar to the PSID in the US or the BHPS in the UK. The GSOEP was initiated in 1984, when it oversampled the then resident migrant population in Germany. In the first wave, about 4500 households with a German born household head were interviewed, and about 1500 households with a foreign born household head. The data is quite unique in providing repeated information on immigrants over a long period of time.

Each individual in a respective household and over the age of 16 is interviewed. The household head provides information about all other individuals in the household and below the interviewing age. Individuals who leave households and form their own households are tracked and included in the panel.

When individuals are 16 years old, they receive their own personal identifiers, and pointers to their mother and their father. We construct a sample of parent-child pairs. We follow all children in the sample after the age of 16, and we construct a corresponding data set of all mothers and fathers. We define a second generation immigrant as an individual who is born in Germany, and whose head of household is born abroad. We also consider children of foreign born parents who are themselves foreign born, but arrived in Germany before the age of 10.

### **3.2 Descriptive Evidence**

Table 1 reports sample characteristics for the children and their parents in our sample, where we distinguish between males and females. The table also reports some characteristics of the sample of immigrants that we include in our labour market analysis. While years of education are similar for both male and female children, there are some notable differences in their labour market variables. Males have much higher labour force participation than females and also have a higher employment rate. Hourly wages are slightly lower for females than for males.

Looking at parental characteristics, fathers are older than mothers and have been in the host country for longer than mothers (both variables being measured when the child was age 10), reflecting the usual pattern of male migration followed by female migration. Parental earnings are the log hourly permanent earnings of the father, or when there is no data on fathers' earnings, the permanent log hourly earnings of the mother. This earnings measure is computed by running fixed effects regressions of log hourly earnings on the individual's age and its square (where earnings are deflated by a CPI). Permanent log hourly earnings are then the sum of the individual fixed effect and the age polynomial, weighted by the estimated coefficients, evaluated when the child was aged 10. Fathers have slightly more years of education than mothers and higher log hourly earnings. Large differentials exist between mothers' and fathers' labour market outcomes – fathers have much higher labour force participation and employment rates than mothers, but also slightly higher unemployment rates as well. Likewise, in the sample of all immigrants (and not just parents), labour market variables again differ between males and females.

**Table 1: Sample Characteristics**

<i>Children</i>	<i>Females</i>		<i>Males</i>	
Age Arrival <sup>1</sup>	4.66	(2.45)	3.89	(2.25)
Years Education <sup>2</sup>	10.51	(1.99)	10.44	(2.09)
Log Earnings <sup>3</sup>	2.18	(0.34)	2.38	(0.35)
% Labour Force Participation <sup>4</sup>	79.53		95.68	
% Unemployed <sup>4</sup>	8.22		10.52	
% Employed <sup>4</sup>	71.31		85.16	
Siblings <sup>5</sup>	76.32		76.41	
Sample Size	380		407	
<i>Parents</i>				
Age <sup>6</sup>	36.91	(6.06)	41.00	(6.17)
Years since Migration <sup>6</sup>	13.25	(5.34)	15.96	(5.31)
Parental Log Earnings <sup>7</sup>	2.40	(0.24)	2.40	(0.24)
Age Arrival	23.81	(7.45)	24.88	(6.96)
Years Education	8.60	(1.89)	9.42	(1.96)
Log Earnings	2.21	(0.30)	2.50	(0.26)
% Labour Force Participation	58.18		93.00	
% Unemployed	6.69		10.29	
% Employed	51.50		82.72	
Sample Size	430		431	
<i>All Immigrants</i>				
Age Arrival	20.02	(10.10)	19.88	(9.77)
Years Education	9.30	(2.13)	9.90	(2.10)
Log Earnings <sup>3</sup>	2.16	(0.34)	2.45	(0.31)
% Labour Force Participation	60.23		89.37	
% Unemployed	8.35		9.64	
% Employed	51.94		79.78	
Sample Size	1859		2032	

Note: in the above table, the number in the first column is the mean of the variable in question and the number in parentheses refers to the standard deviation.

<sup>1</sup>: Age at Arrival for children born abroad; missing for 17 females, 15 males but all 32 children arrived in Germany before the age of 10.

<sup>2</sup>: Years Education: refers to the years of education for those who are no longer in education/training.

<sup>3</sup>: Log Earnings: refers to the log hourly wage (trimmed at top and bottom 1 percentile wage observations) of those who are no longer in education/training.

<sup>4</sup>: % Labour Force Participation (Unemployed) (Employed): this is based on those who are no longer in education (but may be in training, e.g. apprentices).

<sup>5</sup>: Siblings: this refers to the percentage of children who have siblings.

<sup>6</sup>: Age (Years since Migration): refers to the age (years since migration) of mothers' (fathers') when the child was aged 10.

<sup>7</sup>: Parental Log Earnings: this is a fixed measure of the father's log hourly earnings (or if missing, mother's), predicted when the child was aged 10 (trimmed of top and bottom 1 percentile wage observations).

### **3.3 Measures of Identity**

How do we measure identity, and what exactly is identity? Other than human capital or wages, “identity” is not a strictly defined concept, and different disciplines attach a different meaning to it. Because “identity” is not a uniquely defined concept, its correct measurement in empirical analysis is unclear. Rather than starting off with some definition of identity and then attempting to construct a corresponding measure from empirical data, we follow here a more straightforward strategy. We start with the empirical measure we have available, and link its empirical content to existing definitions.

In our data, foreign born individuals and their children are asked on a five point scale about how strongly “German” they feel, and how strongly they feel connected to their origin country. We define the scaled response to that question as our measure of “identity”. This measure captures the way the concept of identity is used in sociology, where social identity corresponds to the way individuals define themselves as members of particular groups. It also relates to the way the concept is used in Akerlof and Kranton (2000) (“a person’s sense of self” defined as belonging to a particular group, like gender). It also captures some of the meaning attached to it in the public debate (as we discuss in the Introduction), where “identity” is understood as identifying with the “way of Life” and the “values” of the host country.

Questions on identity defined in this way have been asked in 12 waves of the GSOEP (1984-1987, and every second year thereafter until 2003) for German identity and 11 waves for native country identity (1985-1987, and every second year thereafter until 2003). To quantify German identity, we use responses of immigrants and their children to questions about how strongly they feel as “German”, on a five-point scale. To quantify identity with their home country, we use responses to a question about how strongly they feel connected to the country where they (or their family) come from, again on a five-point scale.<sup>3</sup> We scale these five responses between 0 and 1. We report these scaled measures for children, their parents and the sample of immigrants that we use in our analysis in Table 2.

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<sup>3</sup> The exact wording of this question differs slightly across the different waves of the panel.

**Table 2: German and Native Identity Measures**

<i>German Identity</i>	Females		Males	
Children	0.47	(0.30)	0.49	(0.30)
Parents	0.25	(0.26)	0.28	(0.26)
All Immigrants	0.29	(0.29)	0.33	(0.29)
<i>Home Identity</i>				
Children	0.62	(0.28)	0.61	(0.28)
Parents	0.80	(0.23)	0.80	(0.23)
All Immigrants	0.77	(0.26)	0.75	(0.27)
Sample size: Children	407		380	
Sample Size: Parents	766		740	
Sample Size: All Immigrants	1859		2032	

Source: GSOEP, all waves with identity questions, 1984 – 2003. Entries are based on the discrete variable, recoded between 0 and 1. Standard deviations are in parentheses.

It is interesting that children of immigrants identify more strongly with their home country than with the host country. Both mothers and fathers have a very weak sense of German identity and identify quite strongly with their native country. The sample of all immigrants that we use in our labour market analysis has similar feelings of identity as the sample of parents.

To obtain measures for the child's and parent's identity which we use in our analysis below, we utilise repeated information on identity in the data and estimate the following regressions:

$$I_{it} = b_0 + f(\text{age})b_1 + u_i + e_{it}, \quad (4)$$

where  $f(\text{age})$  is a quartic in age,  $e_{it}$  is an idiosyncratic error term, and  $u_i$  is an individual specific fixed effect. Our measure for child's identity is then

$$\hat{I}_{i16} = \hat{b}_0 + f(16)\hat{b}_1 + \hat{u}_i. \quad (5)$$

We use the same procedure for constructing an identity measure for parents, where we predict their identity when the child was 10 years old. Note that fixing the age scale does not make any difference in regressions as it does not change individual

specific variation. Our approach reduces the measurement error problem, just like averaging would do. The estimate for  $\hat{u}_i$  is consistent, but unbiased only for large enough  $t$ . For our analysis below, we combine the information on these responses from the various waves by estimating fixed effects regressions, conditioning on a quadratic in age, and construct a time-averaged fixed measure of identity as in (4) and (5). We then normalize this measure between 0 and 1.

Figs 1 and 2 show the kernel densities of the predicted German and home identities for both parents (Fig. 1) and children (Fig. 2) in our sample. The densities for mothers and fathers are quite similar, with those for host country identity further shifted to the left. In Fig. 2 – which displays identities for children – there are hardly any differences between genders. Furthermore, both home and host country identity distributions are now similar, and more central than those for parents.

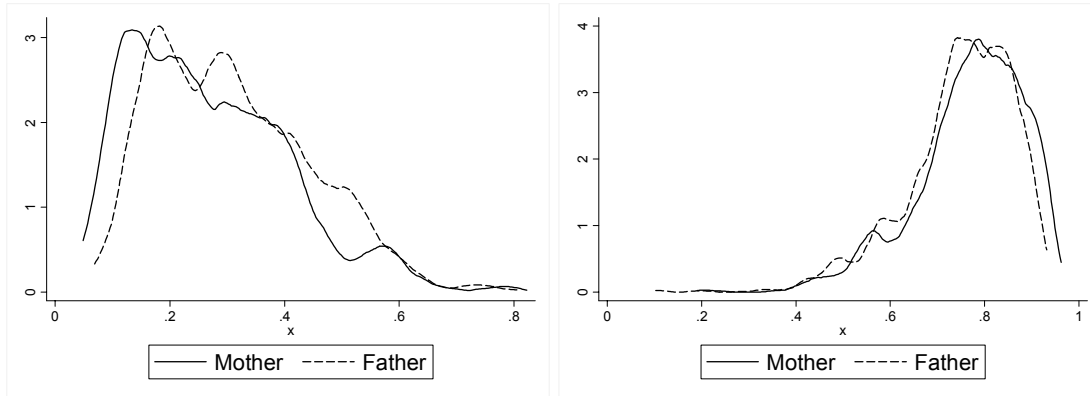


Fig. 1: Kernel density of parents' German identity (left panel) and Home identity (right panel).

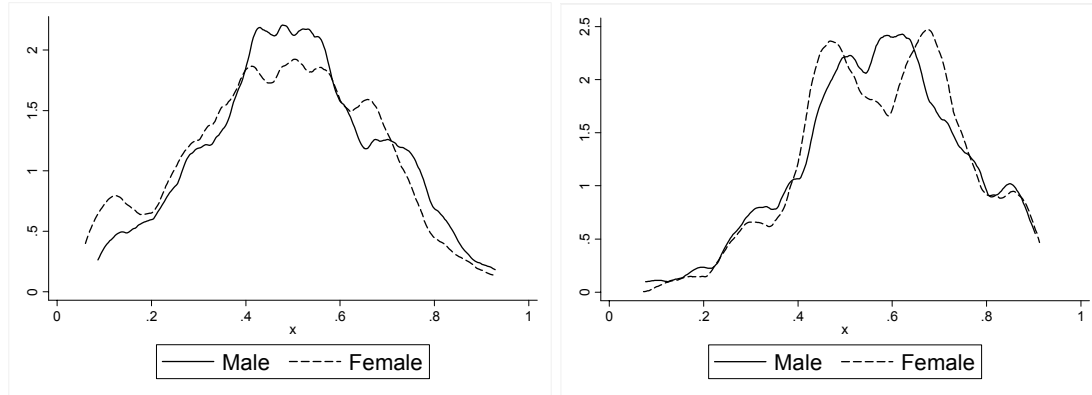


Fig. 2: Kernel density of children's German identity (left panel) and Home identity (right panel).

According to the bipolar model of identity, having a strong ethnic minority identity implies that the majority identity is weak. In Table 3 we look at the relationship between reported home and German identity observations for the children in our sample. Among those who report having a strong German identity, about 45% have a weak home identity, but there are still 14% who report also having a strong home identity. However, among those who report having a weak German identity, 86% have a strong home identity. We conclude that there is evidence of a negative relationship between the two identities.

**Table 3: Strength of Home Identity for different strengths of German Identity: Children**

	<i>If Strong German Identity:</i>		<i>If Moderate German Identity:</i>		<i>If Weak German Identity:</i>	
	%	No. Obs	%	No. Obs	%	No. Obs
Home Id Strong	14.03	127	39.51	431	86.37	767
Moderate	41.33	374	53.35	582	8.33	74
Weak	44.64	404	7.15	78	5.29	47
Total	100.00	905	100.00	1091	100.00	888

Source: GSOEP, all waves with identity questions, 1984 – 2003



### **3.4 The Formation of Identity**

Before examining how ethnic minority and majority identities are associated with various labour market outcomes, we briefly look at the determinants of identity for immigrants, something that has been studied in detail for those living in Britain by Manning and Roy (2009). Table A4 in the Appendix shows the results from regressions of German and home country identity on various personal characteristics including age, years since migration, gender, years of education, country of origin and arrival cohort in Germany. We find similar estimates for males and females for both types of identity, except that females in the most recent arrival cohort (those who arrived in Germany after 1979) have a stronger sense of German identity and weaker sense of home identity relative to those who arrived in Germany prior to 1965. For both males and females, age, years since migration and years of education are associated with a stronger German identity and negatively associated with ethnic minority identity.

These estimates are summarised in the graph in Fig. 3. In the figure, and based on the regression results in Table A4, we display (for immigrant parent sample and the sample of all immigrants) the predicted scaled identity measures (evaluated at the mean years of education) for an individual who arrives in the host country at age 20, over the next 40 years (until age 60). The changes are virtually identical for both groups of immigrants for whom German identity increases with age and years since migration, while at the same time home identity declines. While both identities change over time, it is a very gradual process and the host country identity does not replace that of the home country. This trend is similar to that reported by Manning and Roy (2009) who find that time spent in the UK increases the probability of reporting a British identity.

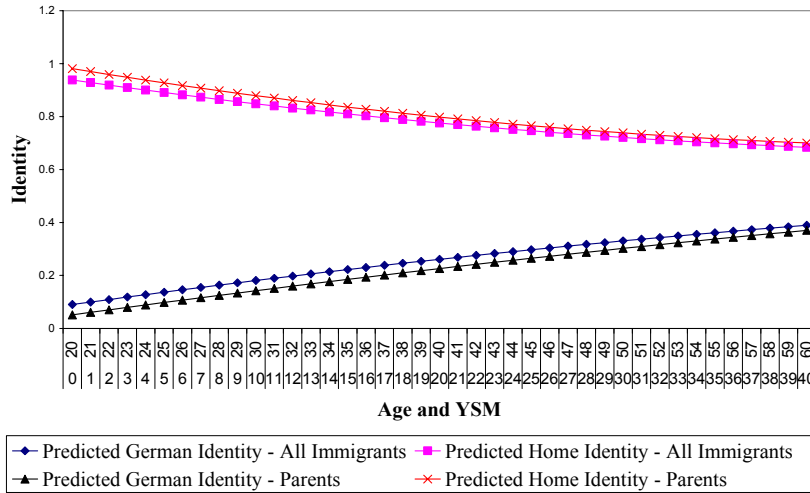


Fig. 3: Predicted Identity by Age and Years since Migration – All Immigrants and Parents

## 4. Identity and Economic Outcomes

We now investigate in a first step whether, and to what extent identity with the home and host country is related to economic success. We regress several measures of economic achievement (log wages, employment, unemployment and labour force participation) on measures of identity, for both parents and their children. As the sample of parents is quite small, we also estimate the same regressions for the entire immigrant population in our data.

An important question is why we should expect identity (or our measure thereof) to have any impact on economic outcomes. One reason, as pointed out by Akerlof and Kranton (2000), may be that identity affects behaviour in a way that is detrimental to labour market outcomes in the host country. For instance, in our context, the feeling of not belonging to the majority group may lead the individual to not participate in social activities of majority individuals that help develop network structures supportive of economic success. On the other hand the feeling of belonging to the minority group may support participation in minority based networks that can be beneficial for economic

outcomes.<sup>4</sup> Identity with a particular ethnic group may also directly induce behaviour that harms labour market outcomes, like obeying particular dress codes, religious mandates, or other visible behavioural patterns. As mentioned by Akerlof and Kranton (2000), identity may also change preferences. In our context, not identifying with the majority group (or identifying with the minority group) may for instance restrict the choice set of individuals, as particular jobs or occupations may become unacceptable.

To capture these effects, we will run regressions of the following type:

$$Y_{it} = b_1^k + X_{it}b^k + b_3^k I_i + e_{it}, \quad (6)$$

where  $Y_{it}$  refers to a measure of economic outcome for individual  $i$  in period  $t$ ,  $X_{it}$  is a vector of conditioning variables,  $I_i$  is a measure of identity, which we construct from the various waves of the panel, as explained in section 3.3;  $e_{it}$  is an error term, and  $k$  is an index for the two groups of parents (or all foreign born immigrants) and their native born children. We estimate these regressions using linear random effects models which take into account the covariance structure induced by repeated observations on the same individual.

Before we present our results, it is important to note that our estimates are associations, and should not be interpreted in a causal way. The absence of any process that randomises individuals across the identity scale excludes a causal analysis. Further, there are unlikely to be any valid instruments in survey data of the type used in this analysis. However, under some plausible assumptions, we are able to bound our estimates. One concern is that the formation of identity with e.g. the host country is related to economic success due to the individual's experience. If for instance, individuals

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<sup>4</sup> Edin et al. (2003) and Damm (2009) find evidence that neighbourhood based ethnic minority networks lead to higher wages of low educated workers. Dustmann, Glitz and Schoenberg (2009) find evidence for referral networks based on ethnicity. Pendakur and Pendakur (2005) illustrate the relationship between ethnic identity and social networks.

who are economically successful in the receiving country develop at the same time a stronger sense of belonging and identity with that country, then we should expect any estimate of our identity measure with the receiving country to be upward biased. If this process is symmetric, then any measure of identity with the *home country* should be downward biased.

There could also be a simultaneity bias: economic success may affect the formation of identity. If the process works in the same way as indicated above, then this will also lead to an over-estimate of the way identity with the host country affects economic achievement. Following this line of argument, we may interpret the coefficient estimates we report in the next section as an *upper bound* (or *lower bound* in the case of home country identity) of any effect of identity on economic outcomes.

#### **4.1 First Generation and Parents**

In Table 4 we display results for first generation immigrants (first panel) and parents of children we consider in our analysis (second panel). Overall, coefficient estimates are similar, though more precise from the overall sample due to the larger sample size.

The estimates suggest no systematic significant relationship between German identity and economic outcomes for males. However, for females, those with a stronger German identity seem to have a slightly higher employment and participation probability, and a lower unemployment probability. For home identity, the estimates point in the opposite direction, but are only significant for employment. The estimates for parents are similar in sign.

The point estimates for females suggest that a one standard deviation increase of German identity (see Table 2) is associated with an increase in employment probabilities by about 2 percentage points, and with a decrease in unemployment by about 0.7 percentage points. Home identity, when increased by one standard deviation is associated with a similar size decrease in employment probabilities of about 1.8 percentage points. These estimates point at some positive association between German identity and

particular female labour market outcomes; they are however – as we discuss above – likely to overestimate any causal impact. For instance, it is likely that those females that participate in the labour market develop a stronger identity with the host country, due to exposure to the native population. For males, there is no significant association between German identity and any of the labour market outcomes, with very small point estimates. We conclude that there is some evidence of a modest association between measures of German identity and economic outcomes for females but not for males.

**Table 4: Random Effects Regressions, All Immigrants and Parents. Dependent variables: Labour Market Outcomes.**

	<i>Males</i>				<i>Females</i>			
	Wages	Participation	Employment	Unemployment	Wages	Participation	Employment	Unemployment
<i>All Immigrants</i>								
German Id	0.015 (0.012)	-0.000 (0.010)	0.001 (0.014)	-0.003 (0.012)	0.003 (0.019)	0.042 (0.019)*	0.070 (0.020)**	-0.026 (0.012)*
Observations	6752	9831	9828	9828	3416	8332	8331	8331
Home Id	0.003 (0.014)	0.019 (0.012)	0.032 (0.016)*	-0.013 (0.013)	0.019 (0.020)	-0.038 (0.021)	-0.071 (0.023)**	0.028 (0.015)
Observations	5825	8499	8497	8497	2982	7231	7230	7230
<i>Parents</i>								
German Id	0.037 (0.018)*	0.020 (0.016)	0.034 (0.022)	-0.013 (0.020)	0.023 (0.026)	0.056 (0.029)	0.066 (0.029)*	-0.014 (0.017)
Observations	2481	3465	3465	3465	1506	3620	3620	3620
Home Id	0.014 (0.019)	-0.007 (0.018)	-0.026 (0.025)	0.018 (0.022)	-0.017 (0.027)	-0.051 (0.031)	-0.078 (0.032)*	0.030 (0.019)
Observations	2207	3104	3104	3104	1380	3253	3253	3253

Note: \* significant at 5%; \*\* significant at 1%. Standard errors in parentheses.

All regressions control for years of education, age and its square, years since migration and its square, country of origin, and year dummies. Wages refer to real log hourly wages.

## 4.2 The Second Generation

We now turn to the second generation. We display results in Table 5, where as before, the upper panel reports estimates for German identity and the lower panel for

home identity. As above, all regressions condition on a large vector of background characteristics, like years of education, age and its square, country of origin of the head of household, born in Germany, and year dummies.

For females we find no significant association between either German or home country identity and their labour market outcomes, although the point estimates point in the direction commonly assumed. For males, the strength of German identity is not significantly associated with any labour market outcomes either. However, we do find a *positive* relationship between home identity, and participation and employment, and a negative relationship with unemployment. One standard deviation increase in males' home identity is associated with an about 6.6 percentage point increase in the employment probability and a decrease in the unemployment probability of about 2.8 percentage points. These effects are quite large, and somewhat surprising as it is not instantly apparent why home identity should be related to these labour market outcomes in this way. One reason could be that – as we discuss above – strong home country identity may be associated with individuals drawing on ethnicity based networks, which enhances their labour market opportunities.

**Table 5: Random Effect Regressions, Children. Dependent variables: Labour Market Outcomes.**

	<i>Males</i>				<i>Females</i>			
	Wages	Participation	Employment	Unemployment	Wages	Participation	Employment	Unemployment
German Id	0.001 (0.108)	-0.058 (0.053)	-0.111 (0.075)	0.069 (0.048)	0.187 (0.101)	0.103 (0.075)	0.070 (0.084)	0.026 (0.041)
Observations	1227	2509	2509	2509	863	2141	2141	2141
Home Id	-0.081 (0.116)	0.146 (0.057)*	0.236 (0.080)**	-0.108 (0.053)*	-0.217 (0.115)	-0.056 (0.087)	-0.013 (0.097)	-0.029 (0.047)
Observations	1227	2509	2509	2509	863	2141	2141	2141

Note: \* significant at 5%; \*\* significant at 1%. Standard errors in parentheses.

All regressions control for years of education, age and its square, country of origin of the head of household, born in Germany, and year dummies. Wages are log hourly wages and exclude wages of those still in education/training (e.g. apprentices).

Overall, these results do not support a strong relationship between either retention of ethnic minority identity or adoption of the majority identity and the labour market

outcomes that we examine, in the direction often suggested, where host country identity is supportive, and home country identity detrimental for economic success. For males, they rather point in the opposite direction. Accordingly, these estimates do not suggest a strong reason why parents should restrict the transmission of their identity to their children, based on considerations that this may harm their children's future labour market prospects. In the next section, we investigate this transmission process.

## 5. Intergenerational Transmission

We now turn to estimating regression models to determine the association between parents' and children's measures of identity. In Table 6 we report results from intergenerational regressions of children's German and home identity on their parents' identity measures which take the following form:

$$I_i^C = a_1 + a_2 I_i^P + X_i' \alpha + v_i . \quad (7)$$

Here  $I_i^C$  and  $I_i^P$  are measures of identity of the child and the parent. The vector  $X_i$  includes family and background characteristics. The parameter of interest is  $a_2$ , which measures the association between parental identity and identity of the child. We compute  $I_i^C$  and  $I_i^P$  as explained in Section 3.3.

There are a number of issues with estimating this relationship in the interpretation of the parameter  $a_2$ . First, it may well be that there is a simultaneity problem; parental identity may respond to the identity of the child. For instance, children may make parents more familiar with the culture and values of the receiving country, through involvement in institutions like schools etc. We will address this by regressing indicators of the child's identity obtained from responses at a later age only (above the age of 16) on parental identity obtained from responses only when the child was much younger. Secondly, measures of identity of the type we use in our empirical investigation may be mismeasured or misreported thus biasing the estimate towards zero. We address the

measurement error problem by making use of the repeated information we have on identity to reduce the noise in our data, as explained in Section 3.3. Finally, some of the relationship between the two variables may be created through parental components that affect the child's identity. To the extent that we observe such factors (like parental education, years of residence etc.) we include them in the vector  $X$ .

Columns 1 in Table 6 report the coefficients on the parents' identity measures using a basic specification where we control only for the country of origin of the head of household and whether or not the child was born in Germany. Columns 2 report the parents' identity coefficients for a more general specification where controls include the country of origin of the head of household, gender, birth cohort, siblings, mothers' and fathers' maximum years of education, fathers' years since migration when the child was aged 10, a permanent measure of head of household's earnings when child was aged 10, dummy if born abroad, and age at arrival in Germany for children born abroad.<sup>5</sup> Coefficients from both specifications are significantly large for both German and home identity indicating that there is a strong association between parents' and children's feelings of identity. Therefore, this seems to indicate that parents play an important role in the formation of their children's feelings of identity.

**Table 6: OLS regressions, cluster parent; dependent variable: Child's Identity, predicted when child age 16.**

	<i>German Identity</i>		<i>Home Identity</i>	
	(1)	(2)	(1)	(2)
Parents' German ID	0.606 (0.066)**	0.557 (0.074)**		
Parents' Home ID			0.525 (0.076)**	0.507 (0.088)**
Observations	787	707	787	707
R-squared	0.20	0.19	0.14	0.15

Note: \* significant at 5%; \*\* significant at 1%. Robust standard errors in parentheses.

Parents' German (Home) ID is scaled measure of parents' German (Home) identity, predicted when the child was aged 10.

(1) controls for country of origin of head of household, and if born abroad.

(2) controls for country of origin of head of household, gender, birth cohort, siblings, mother's and father's maximum years of education, father's years since migration when the child was aged 10 or if missing, mother's years since migration when the child was aged 10, a permanent measure of head of household's earnings when child was aged 10, dummy if born abroad, and age at arrival in Germany for children born abroad.

<sup>5</sup> In cases where there is no father present, or if years since migration is missing, mothers' years since migration when the child was aged 10 is used instead.



It is interesting to look at whether the association between parents' and their children's identity differs by gender – both of the parents and the children themselves. In Table 7 we report estimates where we look at fathers and mothers, sons and daughters separately, using the more general specification we outlined in Table 6 above. These results indicate that fathers are more important for the transmission of the German identity, while mothers appear to transmit the home identity more strongly. The indication that mothers are more important than fathers in the transmission of home identity reflects what is reported in the cross cultural psychology literature, where adult females are considered to be the “carriers of the culture”; in the host country they are more likely to stay in the home and maintain the traditional values (see Phinney, Horenczyk, et al., 2001; Warikoo, 2005).

Differences between sons and daughters are also evident – sons seem to react more to fathers and daughters to their mothers. The stronger intensity of transmission between mothers' and daughters' home identity than between mothers and sons may be explained by the findings in the behavioural literature that there are greater socialisation expectations for daughters than sons to behave in a more traditional manner (Dion and Dion, 2001). The stronger association between fathers' and sons' German identity may reflect the greater acceptability for sons to adopt the new host country culture than for daughters, and this may also explain why fathers' home identity does not appear to influence their daughters' home identity formation.

**Table 7: OLS regressions, cluster parent; dependent variable: Child's Identity, predicted when child age 16. Mothers and fathers separately.**

	<i>German Identity</i>			<i>Home Identity</i>		
	All	Males	Females	All	Males	Females
Father's German ID	0.398 (0.084)**	0.472 (0.109)**	0.310 (0.119)**			
Mother's German ID	0.171 (0.086)*	0.134 (0.101)	0.209 (0.125)			
Father's Home ID				0.207 (0.097)*	0.341 (0.119)**	0.045 (0.129)
Mother's Home ID				0.307 (0.107)**	0.276 (0.125)*	0.360 (0.133)**
Observations	668	349	319	668	349	319
R-squared	0.20	0.21	0.23	0.15	0.19	0.15

Note: \* significant at 5%; \*\* significant at 1%. Robust standard errors in parentheses.

Father's (Mother's) German (Home) ID are scaled measures of father's (mother's) German identity, predicted when the child was aged 10.

All regressions control for country of origin of head of household, gender, birth cohort, siblings, mother's and father's maximum years of education, father's years since migration when the child was aged 10 or if missing, mother's years since migration when the child was aged 10, a permanent measure of head of household's earnings when child was aged 10, dummy if born abroad, and age at arrival in Germany for children born abroad.

One reason for the results in the previous table may be that there are contemporaneous “spillovers” between parents and children if interviews take place at the same time. To exclude that, we estimate the same model, but based on parental identity measured at a much earlier point than identity of the child. Table 8 reports results from intergenerational regressions where we restrict the identity observations that we use in generating our fixed identity measures to observations when the child was older than 18 years (columns 2), when the child was older than 20 years (columns 3), and observations when the child was older than 20 years regressed on parents' identity using only parental identity observations when the child was younger than 16 (columns 4). We again use the more general specification that we outlined for columns 2 in Table 6. These estimates are quite similar to the original estimates that we obtain when we use all identity observations. A strong association between parents' and children's identities remains even in our most restrictive specification in columns 4, indicating that parents' identity plays an important role in the child's own identity formation even at a young age.

**Table 8: OLS regressions, dependent variable: Child's Identity, predicted when child age 16. Restricting children's and parents' identity observations used in predicting fixed identity measure.**

	(1) All Obs	(2) Child >18	(3) Child >20	(4) Child >20 Parent <16	(1) All Obs	(2) Child >18	(3) Child >20	(4) Child >20 Parent <16
Parents' German ID	0.557 (0.074)**	0.591 (0.083)**	0.635 (0.092)**	0.377 (0.074)**				
Parents' Home ID					0.507 (0.088)**	0.556 (0.095)**	0.591 (0.102)**	0.332 (0.099)**
Observations	707	557	428	391	707	558	428	379
R-squared	0.19	0.20	0.20	0.14	0.15	0.16	0.26	0.21

Note: \* significant at 5%; \*\* significant at 1%. Robust standard errors in parentheses.

Parents' German (Home) ID is a scaled measure of parents' German (Home) identity, predicted when the child was aged 10.

(1) uses all children's observations when predicting their identity measure.

(2) uses only children's observations when they're older than 18 years to predict their identity measure.

(3) uses only children's observations when they're older than 20 years to predict their identity measure.

(4) uses only children's observations when they're older than 20 years to predict their identity measure, and restricts parents' identity observations to those when the child was younger than 16 years in predicting the parents' identity measure.

All regressions control for country of origin of head of household, gender, birth cohort, siblings, mother's and father's maximum years of education, father's years since migration when the child was aged 10 or if missing, mother's years since migration when the child was aged 10, a permanent measure of head of household's earnings when child was aged 10, dummy if born abroad, and age at arrival in Germany for children born abroad.

## 6. Discussion and Conclusions

Identity is increasingly being emphasised in the immigration policy debate in many countries. However, economic examination of the concept remains limited. This paper develops a simple model of identity transmission from one generation to the next. In this model, parents would want to transmit to their children an identity that is similar to their own; however, they may refrain from doing so if this harms the child's labour market outcomes. We then provide empirical analysis of ethnic minority and majority identities by looking at the association between home and host country identities and four labour market outcomes – wages, labour market participation, employment and unemployment – for both immigrants and the children of immigrants. We investigate the transmission of identity between immigrants and their children in view of this. Our analysis is based on a long panel for Germany that oversamples immigrants, and contains repeated observations on both ethnic minority and majority identities. This allows us to reduce measurement error in our identity variables by using an averaging type procedure.

Our data also allow us to examine the labour market outcomes of the children of immigrants after they have left the family home. We use separate measures of home and host country identity.

We do not find evidence of a strong positive association between labour market outcomes of male foreign born individuals and the German identity measure we use; we do find some modest association between a German identity and favourable labour market outcomes for females. For the second generation, we find no significant association between either identity measure and female labour market outcomes. For males, the evidence points at a *positive* association between home country identity and labour market outcomes. One explanation is that our identity measure is correlated with participation in ethnic networks, which support labour market opportunities of young males. This interpretation is compatible with Pendakur and Pendakur (2005) who find associations between ethnic minority identity and informal job access, and - for certain subgroups - a positive association between ethnic minority identity and job quality. It is also in line with Dustmann, Glitz and Schoenberg (2009) who show evidence on the existence and productivity of referral-based job search networks of ethnic minority workers. Thus, our results point at the relationship between ethnic identity and labour market outcomes of minority individuals being perhaps more complex than commonly assumed, and at possibly different implications for males and females.

We then turn to the transmission of both ethnic minority and majority identities between immigrants and their children. Our paper is to our knowledge the first analysis of intergenerational identity transmission. We find that there is a strong and significant association between parents' and children's home and host country identities. This relationship varies between fathers and mothers – mothers appear to be more important in the transmission of the home identity and fathers in the transmission of the host country identity. We also find that daughters are influenced more by their mothers' identity and sons by their fathers' identity.

A main result of our analysis is that the identities of the mother and father are a very important factor in identity formation. Should there be compelling reasons for creating a sense of identity with the host country for immigrant children, this parental link needs to be taken into account when devising respective policies. However, we are

not aware of any research that convincingly establishes a *causal* effect of identity (however measured) on economic outcomes. Some of our own results point at a positive – rather than negative – relationship between ethnic minority identity of male immigrant children and their labour market outcomes.<sup>6</sup> This suggests that the mechanisms that link ethnic group identity and labour market outcomes are perhaps less well understood than commonly thought. As we point out in the Introduction, recent policies emphasise strongly the identity of immigrants (and their children) with the receiving country. We believe that the economic case for these policies is not based on strong empirical grounds. More quantifiable research is needed to establish the link between measures of immigrant identity and individual economic outcomes.

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<sup>6</sup> We should note that this relates to the particular measure of identity we use in our analysis.

# Appendix

**Table A1: Number of Times German and Home Identity Observed for Children and Parents**

	0	1	2	3	4	5	6	7	8	9	10	11	12	Total
Number of German Identity Observations														
Percent Children	0 (0)	21.86 (172)	18.42 (145)	16.14 (127)	12.58 (99)	9.28 (73)	6.86 (54)	5.34 (42)	3.43 (27)	3.18 (25)	2.54 (20)	0.25 (2)	0.13 (1)	100 (787)
Percent Mothers	2.67 (21)	21.22 (167)	17.28 (136)	15.63 (123)	12.58 (99)	9.66 (76)	7.62 (60)	5.34 (42)	3.68 (29)	2.03 (16)	1.65 (13)	0.51 (4)	0.13 (1)	100 (787)
Percent Fathers	6.23 (49)	19.57 (154)	17.92 (141)	16.39 (129)	11.31 (89)	9.40 (74)	7.62 (60)	4.45 (35)	3.56 (28)	2.03 (16)	1.14 (9)	0.25 (2)	0.13 (1)	100 (787)
Number of Home Identity Observations														
Percent Children	0 (0)	21.86 (172)	18.17 (143)	16.39 (129)	12.20 (96)	9.66 (76)	6.35 (50)	5.46 (43)	3.56 (28)	3.30 (26)	2.54 (20)	0.51 (4)	0 (0)	100 (787)
Percent Mothers	2.67 (21)	21.09 (166)	17.15 (135)	15.37 (121)	12.71 (100)	9.78 (77)	7.12 (56)	5.59 (44)	3.81 (30)	2.03 (16)	1.91 (15)	0.76 (6)	0 (0)	100 (787)
Percent Fathers	5.97 (47)	20.20 (159)	17.03 (134)	16.39 (129)	11.31 (89)	9.53 (75)	7.62 (60)	4.45 (35)	3.56 (28)	2.03 (16)	1.40 (11)	0.51 (4)	0 (0)	100 (787)

Source: GSOEP, all waves 1984 - 2003

Note: number of observations in parentheses.

**Table A2: Country of Origin of Head of Household of Immigrant Parents**

Country of Origin Head of Household	Children born Germany	Children born Abroad	Number of Children	Percent of Children
Turkey	107	223	330	41.93
Ex-Yugoslavia	49	117	166	21.09
Greece	19	77	96	12.20
Italy	26	108	134	17.03
Spain	9	52	61	7.75
Total	210	577	787	100.00

Source: GSOEP, all waves 1984 - 2005

**Table A3: Age Arrived\* in Germany for Children born Abroad**

Age Arrived	Males	Females	No. Children	% Children
1	17	11	28	15.73
2	10	8	18	10.11
3	22	10	32	17.98
4	19	10	29	16.29
5	5	7	12	6.74
6	12	13	25	14.04
7	4	9	13	7.30
8	4	8	12	6.74
9	5	4	9	5.06
Total	98	80	178	100.00
Mean age on arrival	3.89 (2.25)	4.66 (2.45)	4.24 (2.37)	

Source: GSOEP, all waves 1984 – 2005. Standard deviation in parentheses.

\* Age on arrival in Germany is missing for 32 children who were born abroad but all arrived before age 10.

**Table A4: Random Effects regressions; Parents, dependent variable: Identity**

	<i>German Identity</i>			<i>Home Identity</i>		
	(1)	(2)	(3)	(1)	(2)	(3)
	All	Females	Males	All	Females	Males
Age	0.010 (0.003)**	0.010 (0.004)*	0.010 (0.005)*	-0.005 (0.003)	-0.003 (0.004)	-0.005 (0.005)
Age <sup>2</sup> /100	-0.016 (0.004)**	-0.015 (0.005)**	-0.015 (0.005)**	0.009 (0.004)*	0.007 (0.005)	0.010 (0.006)
Yrs Since Migration	0.007 (0.002)**	0.008 (0.003)**	0.003 (0.004)	-0.013 (0.002)**	-0.012 (0.003)**	-0.013 (0.004)**
Yrs Since Migration <sup>2</sup> /100	0.009 (0.005)	0.009 (0.007)	0.014 (0.008)	0.006 (0.005)	0.004 (0.007)	0.008 (0.009)
Gender	0.022 (0.012)			-0.002 (0.011)		
Years Education	0.016 (0.003)**	0.015 (0.004)**	0.015 (0.004)**	-0.010 (0.003)**	-0.008 (0.004)*	-0.012 (0.004)**
Arrival Cohort 2	0.003 (0.019)	-0.006 (0.031)	0.003 (0.025)	-0.001 (0.017)	0.016 (0.027)	-0.006 (0.022)
Arrival Cohort 3	0.012 (0.019)	0.004 (0.030)	0.009 (0.025)	-0.003 (0.017)	0.014 (0.027)	-0.009 (0.022)
Arrival Cohort 4	0.028 (0.025)	0.019 (0.035)	0.047 (0.040)	-0.044 (0.022)*	-0.027 (0.032)	-0.062 (0.035)
Arrival Cohort 5	0.095 (0.033)**	0.110 (0.041)**	0.027 (0.076)	-0.087 (0.029)**	-0.094 (0.037)*	-0.009 (0.065)
Observations	7086	3621	3465	6358	3254	3104
Number of individuals	838	416	422	836	416	420

Note: \* significant at 5%; \*\* significant at 1%. Standard errors in parentheses.

Arrival Cohort 2 = arrived Germany 1965-1969; Arrival Cohort 3 = arrived Germany 1970-1974; Arrival Cohort 4 = arrived Germany 1975-1979; Arrival Cohort 5 = arrived Germany after 1979. Reference arrival cohort is Arrival Cohort 1 = arrived Germany before 1965. Also includes controls for country of origin.

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